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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,663	08/21/2003	Katsuhiro Onuki	1-16254	9930
7590	06/02/2005			
MARSHALL & MELHORN, LLC PHILLIP S. OBERLIN 8TH FLOOR FOUR SEAGATE TOLEDO, OH 43604			EXAMINER	
			KING, BRADLEY T	
			ART UNIT	PAPER NUMBER
			3683	
DATE MAILED: 06/02/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/646,663	ONUKI ET AL.	
	Examiner	Art Unit	
	Bradley T King	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 April 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 12,14,22,34,36 and 44 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-11,13,15-21,23-33,35 and 37-43 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8-04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of species IV in the reply filed on 4/25/2005 is acknowledged.

Claims 12, 14, 22, 34, 36, and 44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected embodiment, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/25/2005.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 19-20, 33, and 41-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11 and 33 recite "substantially rough in texture". This limitation renders the claim indefinite as the specification does not provide a standard for ascertaining the requisite degree of roughness, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 19 and 41 recite "a second plurality of slots". This limitation is unclear as no first plurality has been recited.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-6, 8-9, 11, 13, 16-21, 23-25, 27-28, 30-31, 33, 35, and 38-43 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 61-130634.

JP 61-130634 discloses all the limitations of the instant claims including; an annular disc 2; and, at least one slot 7 in said disc arranged at an angle greater than zero degrees and less than ninety degrees with respect to a radius of said disc passing through said slot.

Regarding claim 3, note the circular openings at the end of each slot 7 create a corner which protrudes into the slot.

Regarding claim 5, slots 7a communicate with the outer perimeter.

Regarding claim 8, slots 7b communicate with the inner perimeter.

Regarding claim 16, see figure 2.

Regarding claim 17, first slot 7a communicates with the outer perimeter and second slot 7b communicates with the inner perimeter.

Regarding claim 18, see figure 4.

Regarding claim 21, JP 61-130634 shows a solid annular disc.

Regarding the method claims, the recited steps of creating or forming the structure are inherently met by the presence of the structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-130634.

JP 61-130634 discloses all the limitations of the instant claims with exception to the distance relation between the slots. It is clear from the disclosure of JP 61-130634 that slots in close proximity (see figure 1) are contemplated. One of ordinary skill in the art upon viewing the disclosure of JP 61-130634 would have appreciated the relationship between the number and spacing of the slots and the thermal properties of the disc. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the spacing of the slots through routine calculation and/or experimentation to provide the optimum thermal characteristics for a given application. Note that the instant disclosure lacks any criticality to the recited relation as well as *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Claims 4, 7, 10, 26, 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-130634 in view of WO 200273060.

JP 61-130634 discloses all the limitations of the instant claims with exception to protrusions located at the midpoint (claims 4 and 26) or proximate the inner (claims 10 and 32) or outer (claims 7 and 29) perimeter. WO 200273060 discloses a similar brake disc and further teaches protrusions in air flow channels located at the recited locations. See figure 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize protrusions at the recited locations as taught by WO 200273060 in the slots of JP 61-130634 to vary airflow through the slots, thereby creating a desired airflow and cooling effect in the disc.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aydt, Lin, Oberti, Aloy, Wiseman et al, Leonard, and Armstrong. All show brake discs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley T King whose telephone number is (571) 272-7117. The examiner can normally be reached on 11:00-7:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BTK

Douglas C. Butler 5/31/05
DOUGLAS C. BUTLER
PRIMARY EXAMINER
A03683